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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,584	04/21/2004	Byron F. Knight	GCSD-1510 (51392)	5540
27975	7590	04/13/2006	EXAMINER	
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			LE, TOAN M	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/828,584

Applicant(s)

KNIGHT ET AL.

Examiner

Toan M. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-27 and 41-54 is/are allowed.
- 6) ☒ Claim(s) 1,5,9-13,28,32 and 36-40 is/are rejected.
- 7) ☒ Claim(s) 2-4,6-8,29-31 and 33-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/21/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 9-13, 28, 32, and 36-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt (US Patent No. 4,068,160).

Referring to claims 1 and 28, Hunt discloses a system/method for determining the probability of oil or mineral deposits, comprising:

at least one data collection device for collecting elevation slope, magnetic and gravity data sets for a predetermined area of the earth's surface (col. 2, lines 15-37); and

a processor for receiving the elevation slope, magnetic and gravity data sets and applying the gravity and magnetic data sets to the elevation slope data set in a transfer function to link the elevation slope data set to the likely presence of oil or mineral deposits (col. 2, lines 37-68).

As to claims 5 and 32, Hunt discloses a system/method for determining the probability of oil or mineral deposits, and further comprising at least one image of the predetermined area of the earth's surface through which specific data values of elevation slope can be extracted (col. 1, lines 16-40; col. 2, lines 33-37).

Referring to claims 9 and 36, Hunt discloses a system/method for determining the probability of oil or mineral deposits, wherein said data collection device comprises an airborne data collection platform (col. 1, lines 16-40; col. 2, lines 33-37).

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As to claims 10 and 37, Hunt discloses a system/method for determining the probability of oil or mineral deposits, wherein said data collection device comprises a camera for obtaining images of the predetermined area of the earth's surface (col. 1, lines 16-40; col. 2, lines 33-37).

Referring to claims 11 and 38, Hunt discloses a system/method for determining the probability of oil or mineral deposits, wherein said at least one data collection device comprises ground based magnetic or gravity sensing devices for obtaining the magnetic or gravity data sets for a predetermined area of the earth's surface (col. 1, lines 16-40; col. 2, lines 33-37).

As to claims 12 and 39, Hunt discloses a system/method for determining the probability of oil or mineral deposits, wherein said gravity data set comprises data indicative of a change in the earth gravity field along the predetermined area of the earth's surface (col. 4, lines 35-64; col. 6, lines 7-26).

Referring to claims 13 and 40, Hunt discloses a system/method for determining the probability of oil or mineral deposits, wherein said magnetic data set comprises data indicative of a change in the earth magnetic field along the predetermined area of the earth's surface (col. 4, lines 35-64; col. 6, lines 7-26).

Allowable Subject Matter

Claims 2-4, 6-8, 29-31, and 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reason for allowance of the claims 2-4 and 29-31 is the inclusion of elevation slope, magnetic and gravity data sets are represented as gradients within matrices to which the presence of oil or mineral deposits are linked and manipulating the matrices to obtain potential signature

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values indicative of the presence of oil or mineral deposits within the predetermined area of the earth's surface and determining if any matrices are singular and a resulting determinant is zero indicative of a change and increased probability that oil or mineral deposits exist within the predetermined area of the earth's surface.

The reason for allowance of the claims 6-8 and 33-35 is the inclusion of a probability value assigned for the presence of oil or mineral deposits through the transfer function based on elevation slope data sets comprising Digital Terrain Elevation Data.

Allowable Subject Matter

Claims 14-27 and 41-54 are allowed.

The reason for allowance of the claims 14-27 and 41-54 is the inclusion of receiving elevation slope, magnetic and gravity data sets and establishing vector representations indicative of gradients for the elevation slope, magnetic and gravity data sets and applying the transfer function to the vector representations to link the elevation slope data sets to the likely presence of oil and mineral deposits.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

"Interpolation of Geophysical Data Using Continuous Global Surfaces", Billings et al., Geophysics, Vol. 67, No. 6, November-December 2002, pages 1810-1822.

"Cost Effectiveness of Geophysical Inversions in Mineral Exploration: Applications at San Nicolas", Phillips et al., The Leading Edge, December 2001, Pages 1351-1360.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan M. Le whose telephone number is (571) 272-2276. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Toan Le

April 4, 2006


John Barlow
Supervisory Patent Examiner
Technology Center 2800